AN ADDRESS ON

The Surgery of to-day as compared with that of twenty-five years ago

Illustrated by the Work in the General Infirmary at Leeds

DELIVERED BEFORE THE LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY, ON OCTOBER, 1895

BY

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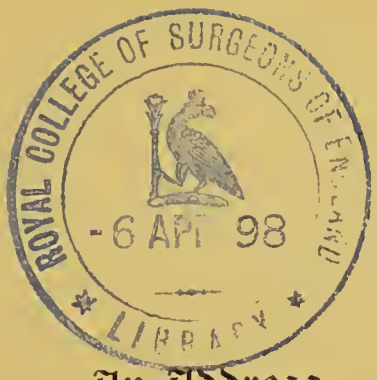

An Address

ON

The Surgery of To-day as Compared with that of Twenty-five Years Ago.

ILLUSTRATED BY THE WORK IN THE GENERAL INFIRMARY AT LEEDS.

Delivered Before the Leeds and West Riding Medico-Chirurgical Society on Oct. 18, 1895.

By A. W. MAYO ROBSON, F.R.C.S.Eng.

President of the Society; Senior Surgeon, Leeds General Infirmary; and Professor of Surgery in the Victoria University.

Gentlemen,—I must first thank you for the honour you have conferred on me by electing me to the most distinguished position of President of this important society, which, both on account of the number of its members, as well as from the value of its papers and discussions, not only holds a premier position among the provincial but is second only in general interest to two or three of the chief metropolitan societies. It is customary for your President to deliver an address at the opening of the session, and as my predecessor in this chair reviewed the work of this society up to last year I have had to look around for another subject. I thought that a comparison of the surgical work of to-day in the General Infirmary at

Leeds, the institution in which we regularly meet, as compared with that of twenty-five years ago, might prove of sufficient interest, as it would tend to show what a reformation—or shall I term it a revolution?—in surgical thought as well as in the science and art of surgery has taken place in the past quarter of a century. To those of my hearers who, like myself, have passed through this most critical period of the history of surgery, it is most evident that the changes in these twenty-five years are simply marvellous, and if we compare the report of the Leeds Infirmary for 1870 with that for the year 1894, issued in 1895, we can see not only that the mortality all round has lessened, but that in certain operations, had not a change come, their performance would have had to remain a matter of history, since the mortality was so high as to render them almost unjustifiable. The number of operations has increased remarkably. Whereas there were in 1870, 271 general and 198 ophthalmic operations, making a total of 469, in 1894 there were 1527 general, 1200 minor, 1171 ophthalmic, and 141 gynæcological operations, making a total of 5039; and whereas the all-round mortality in 1870 was 6·6 in 1894, although the magnitude of the operations performed was in many cases infinitely greater, it had fallen to the notably low percentage of 1·2, so that if the number of operations had been equal in the two years, and the mortality had remained the same, there would have been 332 deaths in 1894 instead of 60. An analysis of the hospital registers for the years named affords some interesting and startling facts; for instance, in the 1894 report the following operations are recorded which have no place in the report of 1870: radical cure of hernia, of which no less than 53 cases are given; osteotomy, 69 cases; removal of vermiform appendix for recurrent appendicitis; cholecystotomy

and other operations on the gall-bladder; enterectomy, prostatectomy, gastrotomy, pyloroplasty, hysterectomy, nephrectomy, laminectomy, laryngectomy, bone-grafting, nerve-grafting, and others, all of which are now well-established, useful and successful operative measures. In the same way a reference to the registers shows that some surgical diseases, unfortunately too common in 1870, are now happily rare, and in some instances have no place in the record of 1894. I refer to hospital gangrene, phagedæna, pyæmia, erysipelas, septicæmia, secondary hæmorrhage, and such-like surgical misfortunes. No better example can be given than that of tetanus, for twenty-five years ago it was not very unusual to see this fatal disease follow even slight operations, yet during the last fifteen years I have not seen a single post-operative case, all instances that have come under observation having occurred after neglected wounds received outside the hospital.

Perhaps in no class of cases has greater progress to be recorded than in abdominal diseases, which formerly were for the most part treated expectantly in the medical wards. For instance, in 1870 and 1871, under the heading "Abdominal Section" no case is recorded; in other words, the peritoneal cavity was only opened for ovariotomy and for strangulated hernia; whereas in the two years 1893 and 1894, 573 patients had abdominal section performed in this hospital, the all-round mortality—including malignant cases, strangulation of gut, cases of acute intestinal obstruction, internal gangrene, suppurative peritonitis, &c. —showing a mortality of 12·2, or a saving of life in 87·8 per cent. The statistics of ovariotomy in this hospital twenty-five years ago were so bad that tapping was frequently resorted to in order to defer the major operation, and even in 1875, 12 patients were thus treated,

only 7 having been submitted to the radical operation. Out of these 7, 5 died, yielding a mortality of 71·3 per cent. On the other hand, in the years 1893 and 1894 ovariotomy was performed 132 times with 123 recoveries, giving a mortality of 6·8 per cent., and seeing that this includes malignant cases as well as patients extremely ill in other ways, the mortality is one of which no hospital need feel ashamed. For it must be borne in mind that statistics are in no way considered, and if an operation offers any chance of giving relief it is resorted to. Only a few years ago it was the custom to treat these cases in single wards and to have two special nurses for each, but as the work increased this was found to be impracticable, it being impossible either to provide sufficient small wards or nurses, and it soon became manifest that the patients treated in the general wards recovered equally well. Hence isolation was given up, and it is now the custom to operate on these cases in the theatre and to remove them to the general wards, just as is done with other surgical cases.

Compound fractures afford a bright example of progress in treatment, for instead of amputating where the large joints are opened or where the bones are extensively smashed and the soft parts lacerated, and instead of the majority of cases having to go through a tedious process of healing by granulation, possibly with the complication of abscess and secondary hæmorrhage, and after many weeks or months recovering with stiffened joints and impaired functions, at the present time, although joints may be opened and the bones severely smashed, so long as the circulation can be carried on amputation scarcely enters into the question, and the limb is put up, after purification of the wound, with every prospect that the case will pursue the ordinary course of recovery like a simple fracture.

Thus there is not only effected a great saving of life and a much more rapid restoration of function, but a marked diminution in the time spent in hospital. In this way, as well as in the treatment of joint diseases, surgery has become much more conservative, and amputation is now only looked on as a *pis aller*, and almost as a sign of failure; though, if amputation has to be done, the mortality of to-day compares very favourably with that of twenty-five years ago, for, including all the major amputations, the mortality of 1870 was 20·8 and of 1875 25·60, whereas in 1894 it was only 11 per cent. This conservative tendency is exemplified by the care exercised to attain perfection in the repair of injured tissues, whether accidental or operative; for instance, it used to be considered satisfactory to bring all the tissues in an abdominal wound together by sutures piercing the whole thickness of the abdominal wall, the result not infrequently being a yielding of the cicatrix and the development of a ventral hernia; but by bringing peritoneum to peritoneum, muscle to muscle, aponeurosis to aponeurosis, and skin to skin, the integrity of the parts is restored and permanent weakness avoided. In no class of wounds does this great care show to more advantage than in injuries of the forearm and hands, where suture of tendons and nerves is thought of as much importance as union of skin; even if there be a deficiency of nerve or tendon, modern surgery is equal to the occasion, since grafting of both can be successfully effected. The aiming at cure, or as nearly as possible at complete restitution, rather than simply at relief, is exemplified in the performance of ovariotomy in place of paracentesis, of excision of joints in place of amputation, of erasion or simply removal of disease instead of excision, of enucleation of thyroid tumours instead of thyroidectomy, and of prostatectomy in place of drainage or frequent catheterism. The operation for

strangulated hernia illustrates not only the greater success 12·5 per cent. mortality in 1894—against 33·3 in 1870 and 60·6 in 1874—but the difference in aim of the modern surgeon, for in 1870 the saving of life was, as a rule, simply considered, and the patient on recovery was left more crippled than ever, since the hernial aperture was as a rule larger, whereas at present the radical cure is considered an essential part of the operation. In consequence of the almost absolute safety of operative interference at an early stage of strangulation, and the almost certain cure of the hernia, very little time is wasted on taxis, and operation is urged as being a blessing, though in disguise. Even in those very terrible cases where, through ignorance or neglect, the intestine becomes gangrenous, unless the patient is too ill to bear more than a mere incision, instead of establishing an artificial anus, a cure is aimed at by excision of the gangrenous loop and restoration of continuity by means of simple suture or by means of some apparatus such as the decalcified bone bobbin or the metal button, the closing of the neck of the sac so as to form a radical cure completing the operation.

In the treatment of certain impacted fractures such as Colles's fracture of the wrist at any age, or impacted fracture of the cervix femoris in a healthy young or middle-aged man, union is certain if the case be left to nature, but I take it that any surgeon would feel dissatisfied with his work if he simply rested content with securing union without restitution. In the same way, in transverse fracture of the patella, bony union and complete restitution, which were once rare events, are now definitely aimed at either by extra- or intra-articular suture. The tendency of modern surgery is to be thorough, this being well exemplified in the treatment of malignant disease; for instance, in cancer of the breast no surgeon would now consider his

work satisfactory who simply removed the tumour without amputating the whole of the breast as well as clearing out the axilla, just as in cancer of the cervix uteri he will perform supra-vaginal amputation or complete hysterectomy no matter how early the disease be discovered. The benefit of this thoroughness is shown in the lengthened respite or in some cases in the complete cure. That the thorough operation in these two classes of cases which have served me for examples is safe is shown by the 1894 statistics, for, of the 36 amputations of the breast and of the 9 hysterectomies for cancer, all recovered. I might have mentioned two other examples of the thorough removal of malignant disease in laryngectomy for malignant disease of the larynx and proctectomy for cancer of the rectum, both of them being comparatively new and successful operative procedures.

In the days when any simple operation wound might be followed by serious complications the advice necessarily given, where the question was one of mere disability or of deformity, was, "Be content with the ills you have rather than those you know not of"; but now that wound complications with due precautions can be discounted our sphere of usefulness is widely extended, and our advice as to operation is well exemplified in the report for 1894, where it will be found that besides the 53 radical cures of non-strangulated hernia for the removal of disability no less than 64 osteotomies were performed for the rectification of crooked legs or thighs, to say nothing of the numerous plastic operations performed simply for their æsthetic effect. I remember the time when healing by granulation was considered quite satisfactory, and occasionally the surgeon would be gratified by obtaining primary union; now not to obtain healing by first intention in clean operation wounds is considered discreditable

to modern surgery and to the institution in which it occurs. Then, not only daily, but several times a day, the dressings had to be changed, whereas at the present time one dressing is applied at the operation, and as a rule is not changed for a week or longer or until the wound is quite healed. I find that so late as 1880 over five tons of linseed were supplied to the infirmary to be used as poultices for wounds, whereas in 1894 the amount was so small that it is not entered in the list of stores, and at the present time I think the student would have to make his acquaintance with this commodity outside the surgical wards. On the other hand, the amount of cotton wool supplied last year was over five tons, it being chiefly used in the manufacture of the antiseptic dressings salufer or salicylic wool. Although an improvement in results was steadily being brought about by increased cleanliness and by improved sanitary arrangements, it was not until the introduction of the antiseptic system by the father of modern surgery, Sir Joseph Lister, that surgery emerged from the darkness and uncertainty which had surrounded it for ages to the scientific accuracy and greater certainty of the present time. The truth of this is proved, if proofs were needed, in the facts I have mentioned, culled from our own hospital records, which are open to all. The change was not simply a gradual evolution, but a well-marked revolution, not depending so much on merely manipulative dexterity (for our hospital twenty-five years ago could boast of the greatest surgical skill) as on an increased knowledge of the causes of surgical disaster and how to avoid them. While on this subject it would be base ingratitude to pass on without an expression of profound sorrow for the loss sustained by science and by mankind in the person of M. Pasteur, that genius who, from the discovery of the causes of aberration in the processes of

fermentation in alcoholic beverages, extended his theories so as to enlarge the whole range of pathological thought by showing the intimate relation between fermentation and contagious disease, an extension of this study leading, as we all know, to the practice of antiseptic surgery. Since the Listerian reformation in surgery evolution has been taking place all along the line, both in surgery and among surgeons themselves.

The time has passed for the surgeon to be obstetrician, general practitioner, physician, and surgeon blended in one; the true surgeon must give his life to his work, and must be an artist as well as a scientist, conversant at the same time with physiology and pathology as well as with anatomy and bacteriology; he can no longer shirk the work of diagnosis and accept the dictum of the physician as to when he should operate or decline to operate, but he must be able to use his brains as well as his hands in order to attain to an ideal. Nowhere is more judgment required than in those difficult cases, most frequently abdominal, where, even with the co-operation of his medical *confrère*, only an approximate diagnosis can be arrived at, and where the awaiting of developments which would clear up the mystery means the loss of life. In such cases exploratory operations, because of their safety, are becoming more and more frequent; in the 1894 report, ten such are given, all of which recovered; but this does not represent the whole of the truth, for in many cases the designation is afterwards affixed to the bed paper though the operation began as an exploratory procedure. In other words, whereas formerly diagnosis was considered essential before operative interference, now operation at times precedes diagnosis. The increasing tendency to "operate when in doubt" will do much to lessen the number of cases to which "too late" has yet to be applied. The surgeon

never had such responsibility resting on his shoulders as at the present time, for it will no longer serve him to blame the supernatural for his own oversights or auto-infection for germs introduced by himself or his assistants. Knowing what we do of the causes of wound complications, and how without that knowledge it was practically impossible to avoid them, it should excite in the mind of the surgeon of to-day the most lively admiration of the able men who brought our art to the state in which it was in the period preceding the antiseptic era. Although they were disquieted by failures which they believed to be beyond control they had the courage to rise above their disasters and in many cases to score successes which the modern surgeon might consider impossible under such adverse circumstances. In accepting the responsibility of operative work the surgeon has to place himself to a certain extent in the hands of those assisting him, and as the strength of a chain is tested by its weakest link, so his success may be marred by the ignorance or the carelessness of another. In hospital work and in surgical clinics this difficulty does not arise, as the surgeon can carefully select his own assistants. In a school so large as the medical department of the Yorkshire College, and with the large amount of clinical material at our disposal for the purposes of teaching, the student has every possible advantage to make himself proficient, and while dresserships are available for all, to those who are diligent and who choose to avail themselves of their opportunities the resident appointments at the infirmary are open, so that the want of skilled assistants is never felt in hospital practice, though in private work at the homes of the patients the difficulty is at times not a little embarrassing. Hence I think it will be found that at the present day, given the skilful and careful surgeon, his success will be greatest in the following order :—(1) at

the surgical clinics where he is personally responsible for the assistants, nurses, and general *entourage;* (2) in his hospital practice, where the responsibility is divided and where his assistants are frequently changing; and (3) in the private homes of patients where the surroundings are often ill-adapted to the purpose, and where the responsibility is still further divided.

Twenty-five years ago I think it would have been found that the greatest success followed the surgeon's efforts in the homes of his patients and the least in his hospital wards, because of the prevalence of wound complications in the latter and the greater purity of the air and of the surroundings in the former. Surgery has, however, not yet attained its goal, and much good work remains to be done. The members of this great society, as they have in the past, will doubtless in the future contribute their share; not only in surgical but in medical science in its various branches has the Society done useful work and signalled progress, as we hope and believe it will continue to do in the future.